## **IN THE CLAIMS**

1. (Original) A method for producing a crystalline turbostratic boron nitride, comprising:

providing a mixture of a substantially amorphous boron nitride and an alkali-borate fluxing agent, and

crystallizing said amorphous boron nitride to said crystalline turbostratic boron nitride in the presence of an effective amount of said alkali-borate fluxing agent in a non-oxidizing atmosphere comprising an atmosphere within a vessel of a closed or quasi-closed state.

- 2. (Original) The method of claim 1, wherein said crystallizing is carried out by heating said mixture at a temperature of about 1500° C. or below for a time period until said amorphous boron nitride is substantially crystallized to said crystalline turbostratic boron nitride.
- 3. (Original) The method of claim 1, wherein said crystallizing is carried out at a temperature from 1200° C. to 1400° C.
- 4. (Original) The method of claim 1, wherein said alkali-borate comprises sodium borate and/or hydrate thereof.
- 5. (Original) The method of claim 1, wherein said alkali-borate in said mixture ranges from 0.01% to 20% by weight.

Serial No. 10/691,434 Docket No. 251002008830 6. (Original) The method of claim 1, further comprising:

purifying the crystalline turbostratic boron nitride by washing with an aqueous cleaning liquid to remove impurities after forming the crystalline turbostratic boron nitride.

7. (Previously presented) A crystalline turbostratic boron nitride, wherein said

crystalline turbostratic boron nitride has a (001) diffraction peak in an X-ray powder diffraction

diagram with Cu K $\alpha$  X-ray which corresponds to the [002] diffraction peak of hexagonal boron

nitride,

said (001) diffraction peak having a dominant peak defined by two straight flank lines,

and being located between 20 and 30 degrees of 20 and rising from a substantially flat portion of

said X-ray diffraction diagram; and

said crystalline turbostratic boron nitride exhibits a combined (10) diffraction peak in the

X -ray powder diffraction diagram around the site of [100] and [101] diffraction peaks of hexagonal

boron nitride,

said combined (10) diffraction peak having a peak at a site which corresponds to the site

of [100] diffraction of hexagonal boron nitride and exhibiting substantially no recognizable

diffraction peak which corresponds to the [101] diffraction peak of hexagonal boron nitride.

8. (Previously presented) A crystalline turbostratic boron nitride, wherein said

crystalline turbostratic boron nitride has a (001) diffraction peak in an X-ray powder diffraction

diagram with Cu Ka X-ray which corresponds to the [002] diffraction peak of hexagonal boron

nitride,

Serial No. 10/691,434 Docket No. 251002008830

3

said (001) diffraction peak having a dominant peak defined by two straight flank lines, and being located between 20 and 30 degrees of  $2\theta$  and rising from a substantially flat portion of said X-ray diffraction diagram;

said crystalline turbostratic boron nitride exhibits a combined (10) diffraction peak in the X-ray powder diffraction diagram around the site of [100] and [101] diffraction peaks of hexagonal boron nitride,

said combined (10) diffraction peak having peak at a site which corresponds to the site of [100] diffraction of hexagonal boron nitride and exhibiting substantially no recognizable diffraction peak which corresponds to the [101] diffraction peak of hexagonal boron nitride; and

said turbostratic boron nitride comprises primary particles having a substantially spherical shape.

9. (Previously presented) The crystalline turbostratic boron nitride as defined in claim 7, wherein said combined (10) diffraction peak has a shoulder and a sloped foot portion following the shoulder on a larger angle side of  $2\theta$  where the [101] diffraction peak of hexagonal boron nitride appears.

10. (Previously presented) The crystalline turbostratic boron nitride as defined in claim 8, wherein said combined (10) diffraction peak has a shoulder and a sloped foot portion following the shoulder on a larger angle side of  $2\theta$  where the [101] diffraction peak of hexagonal boron nitride appears.

Serial No. 10/691,434 Docket No. 251002008830

- 11. (Previously presented) The crystalline turbostratic boron nitride as defined in claim 7, wherein said (001) diffraction peak is the (001) diffraction peak shown in Figure 7 of Drawings, and said combined (10) diffraction peak is the (10) diffraction peak shown in Figure 7 of Drawings.
- 12. (Previously presented) The crystalline turbostratic boron nitride as defined in claim 8, wherein said (001) diffraction peak is the (001) diffraction peak shown in Figure 7 of Drawings, and said combined (10) diffraction peak is the (10) diffraction peak shown in Figure 7 of Drawings.
- 13. (Previously presented) The crystalline turbostratic boron nitride as defined in claim 7 wherein said crystalline turbostratic boron nitride has a primary particle size of approximately from 0.1 to 0.4  $\mu m$ .
- 14. (Previously presented) The crystalline turbostratic boron nitride as defined in claim 8 wherein said primary particles size of approximately from 0.1 to 0.4  $\mu$ m.
- 15. (Previously presented) The crystalline turbostratic boron nitride as defined in claim 7, wherein said crystalline turbostratic boron nitride has a primary particle size in the order of 0.2 to 0.3  $\mu$ m.
- 16. (Previously presented) The crystalline turbostratic boron nitride as defined in claim 8, wherein said primary particles have a size in the order of 0.2 to 0.3  $\mu$ m.

Serial No. 10/691,434 Docket No. 251002008830